

Figure S1

AluYconsensus	- - - - -	G G C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 40
Human-BLAT	C A G G T C T G T T	G A C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
Chimp-BLAT	C A G G T C T G T T	G A C C C G G G T G C G G T G G C T C A C G C G T G T A A T C C C A G C A C T T T 150
Pan paniscus(I)	C A G G T C T G T T	G A C C C G G G T G C G G T G G C T C A C G C G T G T A A T C C C A G C A C T T T 150
Pan paniscus(C)	C A G G T C T G T T	G A C C C G G G T G C G G T G G C T C A C G C G T G T A A T C C C A G C A C T T T 150
Gorilla gorilla	C A G G T C T G T T	G A C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T C 150
Orangutan-BLAT	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
Susie Ref.	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
GM06213A	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
GM04272A	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
NG12256	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
NG06209	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
AG05252A	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
KB4204	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
KB5404	T A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150
KB5405	C A G G T C T G T T	G G C C C G G G C G C G G T G G C T C A C G C C T G T A A T C C C A G C A C T T T 150

AluYconsensus

Human-BLAT

Chimp-BLAT

Pan paniscus(I)

Pan paniscus(C)

Gorilla gorilla

Orangutan-BLAT

Suzie Ref.

GM06213A

GM04272A

NG12256

NG06209

AG05252A

KB4204

KB5404

KB5405

50 60 70 80 90

100 110 120 130 140

150 160 170 180 190

AluYconsensus

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Suzie Ref.

GM06213A

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Human-BLAT

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Orangutan-BLAT

Suzie Ref.

GM06213A

GM04272A

NG12256

NG06209

AG05252A

KB4204

KB5404

KB5405

100 110 120 130 140

150 160 170 180 190

	200	210	220	230	240
AluYconsensus	A G A A T G G C G T G A A C C C -	G G G A G G G C G G A G C T T T G C A G T G A G C C G A G A T C G C G 239			
Human-BLAT	A G A A T G G C G T G A A C C C C	C A G G G G G C A G A G C T T T G C A G T G A G C C G A G A T C G T G 350			
Chimp-BLAT	A G A A T G G C G T G A A C C C C	C A G G G G G C A G A G C T T T G C A G T G A G C C G A G A T C G C G 350			
Pan paniscus(I)	A G A A T G G C G T G A A C C C C	C A G G G G G C A G A G C T T T G C A G T G A G C C G A G A T C G C G 350			
Pan paniscus(C)	A G A A T G G C G T G A A C C C C	C A G G G G G C A G A G C T T T G C A G T G A G C C G A G A T C G C G 350			
Gorilla gorilla	A G A A T G G C G T G A A C C C C	C A G G G G G C A G A G C T T T G C A G T G A G C C G A G A T C G C G 350			
Orangutan-BLAT	A G A A T G G C G T G A A C C C C	C A G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
Suzie Ref.	A G A A T G G C G T G A A C C C C	C A G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
GM06213A	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
GM04272A	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C T T G C A G T G A G C T G A G A T C G C G 350			
NG12256	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
NG06209	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
AG05252A	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
KB4204	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
KB5404	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C T G A G A T C G C G 350			
KB5405	A G A A T G G C G T G A A C C C C	C A G G G G G G C G G A G C C T G C A G T G A G C C G A G A T C G T G 350			

	250	260	270	280	290
AluYconsensus	C C A C T G C A C T C C A G C C T G G G C G A C A G A G	C G A G A C T C C C G T C T C A A A A A A A			
Human-BLAT	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G A C T C C C G T C T C A A A A A A A			398
Chimp-BLAT	C C A C T G C A C T C T A G C C T G G G T G A T A G - -	C G A G A C T C C C G T C T C A A A A A A A			398
Pan paniscus(I)	C C A C T G C A C T C C A G C C T G G G T G A T A G - -	C G A G A C T C C C G T C T C A A A A A A A			398
Pan paniscus(C)	C C A C T G C A C T C T A G C C T G G G T G A T A G - -	C G A G A C T C C C G T C T C A A A A A A A			398
Gorilla gorilla	C C A C T G C A C T C T A G C C T G G G T G A T A G - -	C G A G A C T C C C G T C T C A A A A A A A			398
Orangutan-BLAT	C C A C T G T T A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
Suzie Ref.	C C A C T G T T A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
GM06213A	C C A C T G T T A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
GM04272A	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
NG12256	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
NG06209	C C A C T G T T A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
AG05252A	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
KB4204	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
KB5404	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G C C T C C C G T C T C A A A A A A A			398
KB5405	C C A C T G C A C T C C A G C C T G G G C G A T A G - -	C G A G A C T C C C G T C T C A A A A A A A			398

Figure S1. Sequence Alignment Report of Chr7 shared *Alu* insertion and flanking sequence. The TATA box-like sequence is conserved in all the species sequenced at this locus and is proximal to the 5' end of the *Alu* insertion (highlighted in blue). The Pol III transcription termination signal (TTTT) is also conserved in all species (highlighted in red) immediately after the 3' target site duplication (TSD). TSDs are highlighted in teal. Highlighted in pink are mutations different from the *AluY* subfamily consensus sequence that are shared by all investigated species and are all located in the right monomer of the element following the middle A-rich region. These coincide with diagnostic nucleotides of the *AluYe5* subfamily. Orangutan-specific substitutions are highlighted in yellow. The *Homininae*-specific substitutions are highlighted in green. Chimpanzee / gorilla mutations are highlighted in brown and random mutations are shown in gray.

Table S1

DNA sequences in Alignment Report							
	Species Names	Common Names	Origin	ID number	5' TATA box	5' TSD	3' TSD & termination signal
1	<i>Homo sapiens</i>	Human	hg18	N/A	TATAAAAAA	CAGGTCTGTT	CAGGTCTGTTTT
2	<i>Pan troglodytes</i>	Chimpanzee	panTro2	NS06006	TATAAAAAA	CAGGTCTGTT	CAGGTCTGTTTT
3	<i>Pan paniscus</i>	Bonobo	IPBIR	PR00661	TATAAAAAA	CAGGTCTGTT	CAGGTCTGTTTT
4	<i>Pan paniscus</i>	Bonobo	Coriell	AG05253	TATAAAAAA	CAGGTCTGTT	CAGGTCTGTTTT
5	<i>Gorilla gorilla</i>	Lowland gorilla	Coriell	AG05251	TATAAAAAA	CAGGTCTGTT	CAGGTCTGTTTT
6	<i>Pongo pygmaeus abelii</i>	Sumatran Orangutan	ponAbe2	PR01109 ("Susie")	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
7	<i>Pongo pygmaeus abelii</i>	Sumatran Orangutan	Coriell*	PR01109 ("Susie")	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
8	<i>Pongo pygmaeus abelii</i>	Sumatran orangutan	Coriell	GM06213A	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
9	<i>Pongo pygmaeus abelii</i>	Sumatran orangutan	Coriell	GM04272A	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
10	<i>Pongo pygmaeus abelii</i>	Sumatran orangutan	Coriell	NG12256	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
11	<i>Pongo pygmaeus abelii</i>	Sumatran orangutan	Coriell	NG06209	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
12	<i>Pongo pygmaeus pygmaeus</i>	Bornean Orangutan	Coriell	AG05252A	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
13	<i>Pongo pygmaeus pygmaeus</i>	Bornean Orangutan	SDFZ	KB4204	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
14	<i>Pongo pygmaeus pygmaeus</i>	Bornean Orangutan	SDFZ	KB5404	TATAAAAAA	TAGGTCTGTT	CAGGTCTGTTTT
15	<i>Pongo pygmaeus pygmaeus</i>	Bornean Orangutan	SDFZ	KB5405	TATAAAAAA	CAGGTCTGTT	CAGGTCTGTTTT

IPBIR: Integrated Primate Biomaterials and Information Resource

Coriell: Coriell Institute for Medical Research, 403 Haddon Avenue, Camden, NJ

SDFZ: San Diego Frozen Zoo,

Conservation and Research for Endangered Species (CRES)

* DNA PR01109 in conjunction with the Orangutan Genome Sequencing Project
Washington University Genome Sequencing Center, St. Louis, MO 63108